UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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ART UNIT	PAPER NUMBER
2661	6

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)
	09/687,181	KLAUSNER ET AL.
	Examiner	Art Unit
	Ian N Moore	2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date *4,5*.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 32 is objected to because of the following informalities: "The system of claim 32..."

Examiner assets that claim 32 must depend on the claim 31 (i.e. the similar faction as method

claims).

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-11, 13-27, and 29-32 are rejected under 35 U.S.C. 102(b) as being anticipated by

Spaur (U.S. 5,732,074).

Regarding Claims 1 and 17, Spaur'074 discloses a system and a method for

translating a message of a first protocol (see FIG. 2, a protocol that communicates to the

vehicle devices 50a-50n) to a second protocol (see FIG. 2, Air-link/Radio protocol),

comprising:

a first driver (see FIG. 2, the combined system of Controller Area Network Control

Unit 124 and Controller/network protocol converter 30) to receive the message of the first

protocol (see FIG. 2, CAN bus 126 and vehicle devices 50a-50n) and convert the message to

an independent format (see FIG. 2, TCP/IP STACK 98 converts the messages into TCP/IP

format by encapsulation. Also, see col. 8, line 24-67);

a message handler (see FIG. 2, Controller/network protocol converter 30) to receive

said message from said first driver (see FIG. 2, Controller/network protocol converter 30

receives the messages from the Controller Area Network Control Unit 124); and

a second driver (see FIG. 2, Vehicle CDPD network modem 82) to receive said

message from said message handler (see FIG. 2, Phone interface 84 receiving TCP/IP

messages from Controller/network protocol converter 30) and to convert the message

received in the independent format to the second protocol (see FIG. 2, Air link/Radio

protocol; see col. 7, line 13-21); where

the first driver and the second driver are located in a vehicle (see FIG. 1, Wireless

device 18 and Controller 30; see col. 6, line 3-24; note that both wireless device and

controller are in the vehicle.) and the first protocol is a vehicular protocol (see FIG. 1, a

protocol utilizing Vehicle Standard network 40); and

the second protocol is a wireless link (see FIG. 1, Wireless device 18 which couples

to the air link; see FIG. 2, Air link/Radio protocol; see col. 7, line 13-21).

Regarding Claims 2 and 18, Spaur'074 discloses a message dispatcher (see FIG. 2,

Controller/network protocol converter 30) to receive the message from the first driver before

transmitting the message to the message handler, wherein the message dispatcher is adapted

to the message handler from a set of one or more message handlers by consulting a database

(see FIG. 2, the combined system of Data Memory 106 and Program Memory 114; see col.

10, line 36-64, col. 8, line 1-50; note that RTOS 94 and processor 90, in the Controller 30,

are adapted to perform multi-tasking management function such as

control/memory/communication/ message/error managements. Thus, both RTOS 94 and

processor 90 select/direct the message to handling devices such as CGI-BIN 110, Webserver

102, Controller Area Network unit 124, and/or device drivers 128 before transmission in

accordance with the combined system of Data Memory 106 and Program Memory 114 (i.e.

data base)).

Regarding Claims 3 and 19, Spaur'074 discloses wherein a multiplexer (see FIG. 2,

TCP/IP Stack) is to receive the message from the message handler before transmitting the

message to the second driver (see col. 8, line 24-40, col. 12, line 40-69; note that it is well

known in the art that TCP/IP stacks encapsulates the data in accordance with Standards. The

outputted plurality of messages from various of handling devices CGI-BIN 110, Webserver

102, Controller Area Network unit 124, and/or device drivers 128, must be multiplexed (i.e.

converting from parallel inputs to a single serial output) in order to encapsulate them into

TCP/IP format. Thus, multiplexing of messages from plurality of input into a serial form

must be done so that the multiplexed messages can be encapsulated into the serial radio

frames for wireless transmission.

Regarding Claims 4 and 20, Spaur'074 discloses wherein the multiplexer is to utilize

a network configuration unit (see FIG. 2, the combined system of RTOS 94, Processor 90)

for at least one of system startup, maintenance, and dynamic reconfiguration (see col. 10, line

36-64; col. 8, line 1-50; note that RTOS 94 and processor 90 perform multi-tasking

management function such as control/memory/communication/ message/error managements.

Thus, it is clear that TCP/IP stack must utilize the combined system of RTOS and processor

unit for network management/control tasks such as system maintenance, communication,

configuration/re-configuration (i.e. memory management).)

Regarding Claims 5 and 21, Spaur'074 discloses wherein the message handler is to

perform a manipulation on the message (see col. 8, line 24 to col. 9, line 56; note that Web

server 102 services information related requests messages in http format. Thus, it is clear that

it must manipulate/influence the message.)

Regarding Claims 6 and 22, Spaur'074 discloses wherein the manipulation includes

at least one of packet translation and interaction with a computer application (see FIG. 2,

Program Memory 114 and data memory 106; see col. 8, line 40 to col. 9, line 54; note that

program memory 114 stores executable software applications associated with the vehicle,

and the data memory stores the handling requests or commands. Thus,

manipulation/influencing the message includes the web server access data memory to obtain

configured data for encapsulation in the message, and the web server also links/interacts with

the program memory to execute software applications.)

Regarding Claims 7 and 23, Spaur'074 discloses wherein a third driver (see FIG. 2, Remote CDPD Network Modem 76 and Modem 64) coupled to the second driver (see FIG. 2, Vehicle CDPD network modem 82 to the cellular phone 80).

Regarding Claims 8 and 24, Spaur'074 discloses wherein the multiplexer is a network multiplexer (see FIG. 2, TCP/IP stacks with the multiplex functionality is being used in CAN network and Radio/TCP/IP network. Thus, it is clear that the TCP/IP stacks must have network-multiplexing functionality.)

Regarding Claims 9 and 25, Spaur'074 discloses the database is a rules database (see FIG. 2, Data Memory 106 and Program Memory 114; see col. 8, line 40 to col. 9, line 54; note that both memory units store the commands/requests/applications/regulations for controller.)

Regarding Claims 10 and 26, Spaur'074 discloses wherein the message is transmitted from the second driver (see FIG. 2, Vehicle CDPD network modem 82 to the cellular phone 80) to a third driver (see FIG. 2, the combined system of Remote CDPD Network Modem 76 and modem 64) in the second protocol by wireless communication (see FIG. 2, Air link).

Regarding Claims 11 and 27, Spaur'074 discloses wherein the first protocol is a Controller Area Network protocol (see FIG. 2, Controller Area Network Control Unit 124).

Regarding Claims 13 and 29, Spaur'074 discloses wherein the message received by

the third driver (see FIG. 2, the combined system of Remote CDPD Network Modem 76 and

modem 64) is translated back to the first protocol (see FIG. 2, a protocol that communicates

to the vehicle devices 50a-50n) and received by a fourth driver (see FIG. Computer terminal

60). See col. 2, line 30-50 and col. 7, line 12-45; note that the combined system of RF

modem 76 and modem 64 demodulates/de-capsulates the radio frames into the IP packets.

Each message inside the IP packet is associated with a specific vehicle device ID/address.

The converted message received at the computer terminal includes the IP address associated

with a specific on-board vehicle device ID. Thus, it is clear that the received message is

converted back to original message format (i.e. first protocol) which utilizes when

communicating to the vehicle devices.)

Regarding Claims 14 and 30, Spaur'074 discloses wherein a remote application in

communication with the third driver is capable of receiving the message (see FIG. 2, Browser

application 72 in the computer terminal 60 receives the message via the combined system of

Remote CDPD Network Modem 76 and modem 64). See col. 12, line 39-69.

Regarding Claims 15 and 31, Spaur'074 discloses wherein the remote application is

capable of either passively receiving the message (see col.4, line 24-37; note that application

(i.e. Web browser application in the computer terminal) receives the message from the

vehicle periodically.) or initiating a transmission from the third driver back to the second

driver for translation and receipt at the first driver in the first protocol (see col. 2, line 24 to col. 4, line 23; note that the computer terminal initiates the request associated with the vehicle device from the remote uplink CDPD network modem to the downlink vehicle CDPD network modem, and the message is received at the combined system of Controller Area Network Control Unit 124 and Controller/network protocol converter 30 in the protocol which communicates to the vehicle devices 50a-50n.)

Regarding claims 16 and 32, Spaur'074 discloses wherein the third driver (see FIG. 2, the combined system of Remote CDPD Network Modem 76 and modem 64) is unable to communicate with the second driver unless the third driver adheres to predefined transmission rules (see col. 2, line 25-65; note that it is well known in the art that CDPD (Cellular Digitized Packet Data) network utilizes the encrypting, encoding, and encapsulation policies/regulations according to the CDPD RF requirements before the message is sent over the air links. Thus, it is clear that the network modem 76 must utilize CDPD policies/regulation in order to transmit the message to the vehicle wireless modem 82) and transmits messages from only a predefined group of possible messages (see col. 25, line 25-65; note that messages are only send according to the commands/requests from the particular/specific vehicle devices within a group of plurality of vehicle devices.)

3. Claims 1, 6, 10-17, 22, and 26-32 are rejected under 35 U.S.C. 102(a) as being anticipated by Wunderlich.

Regarding Claims 1 and 17, Wunderlich discloses a system and a method for translating a message of a first protocol (see FIG. 4, CAN protocol) to a second protocol (see FIG. 4, Radio Frequency, BT RF); see page 9-11, comprising:

a first driver (see FIG. 4, the combined system of CAN driver, CAN, Bluetooth/CAN conversion at local node) to receive the message of the first protocol and convert the message to an independent format (see page 9-11, CAN/Bluetooth basis; the CAN messages are wrapped up into Bluetooth packets);

a message handler (see FIG. 4, Bluetooth/CAN conversion layer) to receive said message from said first driver (see FIG. 7, Bluetooth/CAN conversion layer receives CAN messages); and

a second driver (see FIG. 4, Bluetooth and BT RF at local node) to receive said message from said message handler (see FIG. 4, Bluetooth/CAN conversion layer) and to convert the message received in the independent format to the second protocol (see FIG. BT RF; note that Bluetooth packets are encapsulated into a radio frame); where

the first driver and the second driver are located in a vehicle and the first protocol is a vehicular protocol (see FIG. 5, both CAN bus and Bluetooth gateway are in the car); and

the second protocol is a wireless link (see FIG. 4, BT RF link).

Regarding Claims 6 and 22, Wunderlich discloses wherein a third driver (see FIG. 4, Bluetooth and BT RF at remote station) coupled to the second driver (see FIG. 4, Bluetooth and BT RF).

Regarding Claims 10 and 26, Wunderlich discloses wherein the message is transmitted from the second driver (see FIG. 4, Bluetooth and BT RF) to a third driver (see FIG. 4, Bluetooth and BT RF at remote station) in the second protocol (see FIG. 4, BT RF link and Bluetooth).

Regarding Claims 11 and 27, Wunderlich discloses wherein the first protocol is a Controller Area Network protocol (see FIG. 4, Controller Area Network Control CAN protocol).

Regarding Claims 12 and 28, Wunderlich discloses wherein the second protocol is a Bluetooth protocol (see FIG. 4, Bluetooth, BT RF).

Regarding Claims 13 and 29, Wunderlich discloses wherein the message received by the third driver is translated back (see FIG. 4, the combined system of Bluetooth, BT RF, and Bluetooth/CAN conversion at remote station) to the first protocol (see FIG. 4, Controller Area Network Control CAN protocol) and received by a fourth driver (see FIG. 4, CAN driver at remote station).

Regarding Claims 14 and 30, Wunderlich discloses wherein a remote application in communication with the third driver is capable of receiving the message (see FIG. 7, CAN Tool software in the PC receives the CAN messages via the combined system of Bluetooth, BT RF, and Bluetooth/CAN conversion.) See page 13-15, Connection Establishment.

Regarding Claims 15 and 31, Wunderlich discloses wherein the remote application is capable of either passively receiving the message (see FIG. 7 CAN Tool Software receives CAN messages), or

initiating a transmission from the third driver back to the second driver for translation and receipt at the first driver in the first protocol (see FIG. 7 CAN Tool Software at remote station initiates the messages inquires from the combined system of Bluetooth, BT RF, and Bluetooth/CAN conversion at local station, and the message is received at the combined system of CAN driver, CAN, Bluetooth/CAN conversion at local station in the CAN protocol.) See page 13-15, Connection Establishment.

Regarding claims 16 and 32, Wunderlich discloses wherein the third driver (see FIG. 4, the combined system of Bluetooth, BT RF, and Bluetooth/CAN conversion at remote station) is unable to communicate with the second driver unless the third driver adheres to predefined transmission rules (note that it is well known in the art that Bluetooth utilizes the encryption/authentication according to policy/regulation before the message is sent over the air links. Thus, it is clear that Bluetooth RF must utilize such policies/regulations in order to transmit the message to the Bluetooth, BT RF at local station), and transmits messages from only a predefined group of possible messages (note that messages are only send according to commands/inquiries from the particular/specific CAN devices within a group of plurality of CAN devices.) See page 9-15.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4. Claims 12, 28, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Spaur'074 in view of Wunderlich.

Regarding claims 12 and 28, Spaur'074 discloses all aspects of the claimed

invention set forth in the rejection of Claim 1 and 17 as described above.

Spaur'074 does not explicitly disclose wherein the second protocol is a Bluetooth

protocol.

However, the above-mentioned claimed limitations are taught by Wunderlich. In

particular, Wunderlich teaches wherein the second protocol is a Bluetooth protocol (see FIG.

4, Bluetooth and BT RF; see page 9-11).

In view of this, having the system of Spaur'074 and then given the teaching of

Wunderlich, it would have been obvious to one having ordinary skill in the art at the time the

invention was made to modify the system of Spaur'074, by utilizing Bluetooth as a wireless

air link protocol, taught by Wunderlich. The motivation to combine is to obtain the

advantages/benefits taught by Wunderlich since Wunderlich states at "page 1, Abstract" that

such modification would provide good technical performance, high market penetration, and

potential for low cost solution.

Regarding claim 33, Spaur'074 discloses a system for translating a message of a

Network protocol (see FIG. 2, a protocol that communicates to the vehicle devices 50a-50n)

to a wireless protocol (see FIG. 2, Air-link/Radio protocol), comprising:

a first driver (see FIG. 2, the combined system of Controller Area Network Control

Unit 124 and Controller/network protocol converter 30) to receive the message of the first

protocol (see FIG. 2, CAN bus 126 and vehicle devices 50a-50n) and convert the message to

an independent format (see FIG. 2, TCP/IP STACK 98 converts the messages into TCP/IP

format by encapsulation. Also, see col. 8, line 24-67);

a message handler (see FIG. 2, Controller/network protocol converter 30) to receive

said message from said first driver (see FIG. 2, Controller/network protocol converter 30

receives the messages from the Controller Area Network Control Unit 124); and

a second driver (see FIG. 2, Vehicle CDPD network modem 82) to receive said

message from said message handler (see FIG. 2, Phone interface 84 receiving TCP/IP

messages from Controller/network protocol converter 30) and to convert the message

received in the independent format to the wireless protocol (see FIG. 2, Air link/Radio

protocol; see col. 7, line 13-21);

a message dispatcher (see FIG. 2, Controller/network protocol converter 30) to

receive the message from the first driver before transmitting the message to the message

handler, wherein the message dispatcher is adapted to the message handler from a set of one

or more message handlers by consulting a database (see FIG. 2, the combined system of Data

Memory 106 and Program Memory 114; see col. 10, line 36-64; col. 8, line 1-50; note that

RTOS 94 and processor 90, in the Controller 30, are adapted to perform multi-tasking

management function such as control/memory/communication/ message/error managements.

Thus, both RTOS 94 and processor 90 select/direct the message to handling devices such as

CGI-BIN 110, Webserver 102, Controller Area Network unit 124, and/or device drivers 128

before transmission in accordance with the combined system of Data Memory 106 and

Program Memory 114 (i.e. data base).);

a third driver (see FIG. 2, Remote CDPD Network Modem 76 and Modem 64)

coupled to the second driver (see FIG. 2, Vehicle CDPD network modem 82 to the cellular

phone 80); where

the first driver and the second driver are located in a vehicle (see FIG. 1, Wireless

device 18 and Controller 30; see col. 6, line 3-24; note that both wireless device and

controller are in the vehicle);

a multiplexer (see FIG. 2, TCP/IP Stack) is to receive the message from the message

handler before transmitting the message to the second driver (see col. 8, line 24-40, col. 12,

line 40-69; note that it is well known in the art that TCP/IP stacks encapsulates the data in

accordance with Standards. The outputted plurality of messages from various of handling

devices CGI-BIN 110, Webserver 102, Controller Area Network unit 124, and/or device

drivers 128, must be multiplexed (i.e. converting from parallel inputs to a single serial

output) in order to encapsulate them into TCP/IP format. Thus, multiplexing of messages

from plurality of input into a serial form must be done so that the multiplexed messages can

be encapsulated into the serial radio frames for wireless transmission;

the network multiplexer is to utilize a network configuration unit (see FIG. 2, the

combined system of RTOS 94, Processor 90) for at least one of system startup, maintenance,

and dynamic reconfiguration (see col. 10, line 36-64; col. 8, line 1-50; note that RTOS 94

and processor 90 perform multi-tasking management function such as

control/memory/communication/ message/error managements. Thus, it is clear that TCP/IP

stack must utilize the combined system of RTOS and processor unit for network

management/control tasks such as system maintenance, communication, configuration/re-

configuration (i.e. memory management).)

the message handler is to perform a manipulation on the message (see col. 8, line 24

to col. 9, line 56; note that Web server 102 services information related requests messages in

http format. Thus, it is clear that it must manipulate/influence the message.) that includes at

least one of packet translation and interaction with a computer application (see FIG. 2,

Program Memory 114 and data memory 106; see col. 8, line 40 to col. 9, line 54; note that

program memory 114 stores executable software applications associated with the vehicle,

and the data memory stores the handling requests or commands. Thus,

manipulation/influencing the message includes the web server access data memory to obtain

configured data for encapsulation in the message, and the web server also links/interacts with

the program memory to execute software applications.);

the message is transmitted from the second driver (see FIG. 2, Vehicle CDPD

network modem 82 to the cellular phone 80) to a third driver (see FIG. 2, the combined

system of Remote CDPD Network Modem 76 and modem 64) in the wireless protocol by

wireless communication (see FIG. 2, Air link).

a remote application is capable of either passively receiving the message (see col.4,

line 24-37; note that the application station (i.e. web browser application in the computer

terminal) receives the message from the vehicle periodically.) or initiating a transmission from the third driver back to the second driver for translation and receipt at the first driver in the Network protocol (see col. 2, line 24 to col. 4, line 23; note that the computer terminal initiates the request associated with the vehicle device from the remote uplink CDPD network modem to the downlink vehicle CDPD network modem, and the message is received at the combined system of Controller Area Network Control Unit 124 and Controller/network protocol converter 30 in the protocol which communicates to the vehicle devices 50a-50n.)

Spaur'074 does not explicitly disclose network protocol is a Controller Area Network Protocol, and wireless protocol is a Bluetooth protocol.

However, the above-mentioned claimed limitations are taught by Wunderlich. In particular, Wunderlich teaches the network protocol is a Controller Area Network Protocol (see FIG. 4, CAN protocol), and wireless protocol is a Bluetooth protocol (see FIG. 4, Bluetooth and BT RF; see page 9-11).

In view of this, having the system of Spaur'074 and then given the teaching of Wunderlich, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Spaur'074, by utilizing Bluetooth as a wireless air link protocol to convert automotive CAN protocol, taught by Wunderlich. The motivation to combine is to obtain the advantages/benefits taught by Wunderlich since Wunderlich states at "page 1, Abstract" that such modification would provide good technical performance, high market penetration, and potential for low cost solution.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian N Moore whose telephone number is 703-605-1531. The examiner can normally be reached on M-F: 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 703-305-4798. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ian N Moore
Examiner
Art Unit 2661

INM
1/30/04

RICKY NGO
PRIMARY EXAMINER